Pushing the Envelope			
2005 Science			
Content Standards			
South Dakota Science			
Grade 6			
Activity/Lesson	**State**	**Standards**	
Chemistry (pgs. 25-41)	SD	SCI.6.6.P.1.2.a	Students are able to classify matter based on physical and chemical properties. Compare and contrast compounds and elements.
Physics and Math (pgs. 43-63)	SD	SCI.6.6.P.2.1.a	Students are able to describe how push/pull forces acting on an object produce motion. Demonstrate how all forces have magnitude and direction.
Physics and Math (pgs. 43-63)	SD	SCI.6.6.P.2.1.b	Students are able to describe how push/pull forces acting on an object produce motion using Newton's Laws of Motion
Rocket Activity (pgs. 69-75)	SD	SCI.6.6.P.2.1.a	Students are able to describe how push/pull forces acting on an object produce motion. Demonstrate how all forces have magnitude and direction.
Rocket Activity (pgs. 69-75)	SD	SCI.6.6.P.2.1.b	Students are able to describe how push/pull forces acting on an object produce motion using Newton's Laws of Motion
Pushing the Envelope			
2005 Science			
Content Standards			
South Dakota Science			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Chemistry (pgs. 25-41)	SD	SCI.8.8.P.1.1.a	Describe structures and properties of, and changes in, matter. Students are able to classify matter as elements, compounds, or mixtures and use formulas.
Pushing the Envelope			
2005 Science			
Content Standards			
South Dakota Science			
Grades 9-12			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	SD	SCI.9-12.9-12.P.2.1.b	Given distance and time, calculate the velocity or speed of an object.
Types of Engines (pgs. 11-23)	SD	SCI.9-12.9-12.P.2.1.d	Distinguish between velocity and acceleration as related to force.
Types of Engines (pgs. 11-23)	SD	SCI.9-12.9-12.P.2.2.d	Explain how force, mass, and acceleration are related.
Chemistry (pgs. 25-41)	SD	SCI.9-12.9-12.P.1.5.a	Differentiate between physical and chemical properties used to describe matter.
Chemistry (pgs. 25-41)	SD	SCI.9-12.9-12.P.1.5.c	Describe the effects of changing pressure, volume, or temperature upon gases.
Physics and Math (pgs. 43-63)	SD	SCI.9-12.9-12.P.2.1.b	Given distance and time, calculate the velocity or speed of an object.

Physics and Math (pgs. 43-63)	SD	SCI.9-12.9-12.P.2.2.a	Describe how inertia is related to Newton's First Law.
Physics and Math (pgs. 43-63)	SD	SCI.9-12.9-12.P.2.2.b	Explain the effect of balanced and unbalanced forces.
Physics and Math (pgs. 43-63)	SD	SCI.9-12.9-12.P.2.2.c	Identify the forces at work on action/reaction pairs as distinguished from balanced forces.
Rocket Activity (pgs. 69-75)	SD	SCI.9-12.9-12.P.2.1.b	Given distance and time, calculate the velocity or speed of an object.
Rocket Activity (pgs. 69-75)	SD	SCI.9-12.9-12.P.2.2.b	Explain the effect of balanced and unbalanced forces.
Rocket Activity (pgs. 69-75)	SD	SCI.9-12.9-12.P.2.2.c	Identify the forces at work on action/reaction pairs as distinguished from balanced forces.
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2005 Science			
Content Standards			
South Dakota Science			
Grade 12			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	SD	SCI.12.9-12.E.2.1A.a	Analyze essential principles and ideas about the composition and structure of the universe. Describe the four fundamental forces.
Rocket Activity (pgs. 69-75)	SD	SCI.12.9-12.E.2.1A.a	Analyze essential principles and ideas about the composition and structure of the universe. Describe the four fundamental forces.